AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please amend claims 1, 13, 14 and 16 and add new claims 21-28 as follows:

1. (Currently Amended) Storage medium for the storage of information and data, wherein the storage medium comprises at least two interconnected disks of which at least one comprises a storage glass material and another comprises a polymer layer, having a reflective coating, arranged between the polymer layer and the storage glass material upon which is arranged on at least one side a donor medium for metallic ions, whereby by irradiation with a focused laser beam, metallic ions are locally transferred from the donor medium into the storage glass material.

2. (Previously Amended) Storage medium for the storage of information and data, according to claim 1, wherein the storage glass material comprises a localized metallic ion doping, whereby by irradiation by the focused laser beam, metallic ions may be converted into metallic particles or aggregations of metallic particles.

3. (Canceled)

4. (Currently Amended) Storage medium according to claim 1, wherein metallic ion doping is arranged on at least one side near a flat surface of one of the at least two interconnected disks comprising the storage ~~glass material~~ medium.

5. (Previously Amended) Storage medium according to claim 1, wherein the metallic ions are selected from the group comprising of silver, gold, platinum, and copper.

6. (Canceled)

7. (Previously Amended) Storage medium according to claim 1, wherein the polymer layer features an optically functional structure comprising information for the guidance of a read/write beam.

8. (Canceled)

9. (Previously Amended) Storage medium according to claim 1 wherein a metallic ion doping in proximity of a surface of the storage glass material is arranged on a side of the storage glass material facing the polymer layer.

10. (Previously Amended) Storage medium according to claim 7, wherein the optically functional structure in the polymer layer is arranged on a side facing the storage glass material.

11. (Canceled)

12. (Previously Amended) Storage medium according to claim 1, wherein the information and data comprises a spatial arrangement of storage material regions with and without metallic particles and ions.

13. (Currently Amended) A process for storage of data with a storage medium,

the storage medium comprising at least two interconnected disks of which at least one comprises a storage glass material and another comprises a polymer layer, having a reflective coating, arranged between the polymer layer and the storage glass material upon which is arranged on at least one side a donor medium for metallic ions; and

wherein by means of irradiation of the storage glass material by focused electromagnetic or particle irradiation local doping of the storage glass material is carried out with metallic ions from a donor medium arranged on the storage glass material.

14. (Currently Amended) Process for storage of data with a storage medium according to claim 13, wherein by irradiation of the storage glass material by electromagnetic or particle irradiation in ~~a dielectric~~ the storage glass material doped with metallic ions, information is stored in the storage glass material by localized formation of metallic particles out of metallic ions, and stored information is read out by scanning the storage glass material with the ~~said~~ irradiation in transmission or reflection.

15. (Previously Amended) Process according to claim 13, wherein reading and writing of the information with a laser beam takes place in a visible spectral region.

16. (Currently Amended) Process according to claim 14, wherein the formation of metallic particles takes place in ~~the~~ a first step of irradiation by thermally ~~induced~~ inducing formation of metallic particle nuclei by the reduction of metallic ions, and in a second step, growth of metallic particle nuclei into a metallic particle aggregation occurs by resonance-enhanced absorption of radiation.

17. (Previously Amended) Process according to claim 13, wherein deletion of stored information and data takes place by heating the storage medium.

18. (Canceled)

19. (Previously Presented) The Process according to claim 16, wherein the reduction of metallic ions occurs in response to a heating of the entire storage medium above a transformation temperature of the glass storage medium.

20. (Previously Presented) The Process according to claim 13, wherein analog information is stored by varying an intensity of the electromagnetic or particle irradiation.

21. (New) A method for forming a storage medium and storing information therein, comprising:

applying a metal-ion donor medium on a glass disc side of a storage medium, the storage medium comprising two interconnected discs, one disc being a glass disc and another disc being a protective polymer layer; and

locally doping the glass disc by a local transfer of metal ions from the metal-ion donor medium to the glass disc in locally heated spots of the metal-ion donor medium and the glass disc irradiated by a first focused laser beam.

22. (New) The method of claim 21, wherein the glass disc is locally doped in a helical track.

23. (New) The method of claim 21, wherein the glass disc is locally doped in a temperature range below a transformation temperature of glass of which the glass disc is comprised.

24. (New) The method of claim 21, further comprising:

reducing the metal-ions to metallic clusters in locally doped areas by heating the glass disc with a second focused laser beam above the transformation temperature of glass of which the glass disc is comprised.

25. (New) The method of claim 24, wherein the first focused laser beam and the second focused laser beam are the same, and wherein reducing the metal ions to metallic clusters occurs immediately after locally doping the glass disc.

26. (New) The method of claim 21, further comprising:

retrieving information from the storage medium by detecting a phase displacement of a reading laser beam caused by an altered index of refraction in a locally doped area of the glass disc.

27. (New) A storage medium, comprising:

at least two interconnected discs, wherein one disc is a glass disc and another disc is a protective polymer layer;

the glass disc having areas locally doped with metal ions transferred from an attached donor medium, and wherein the metal ions are transferred to the glass disc by a local heating with a focused laser beam.

28. (New) The storage medium of claim 27, wherein the areas locally doped with metal ions are configured as a helically doped track.